PBC

NEWSLETTER OF THE AREA PLANNING BOARD OF PALM BEACH COUNTY 2300 PALM BEACH LAKES BLVD, WEST PALM BEACH, FL. 33409

apb FORUM

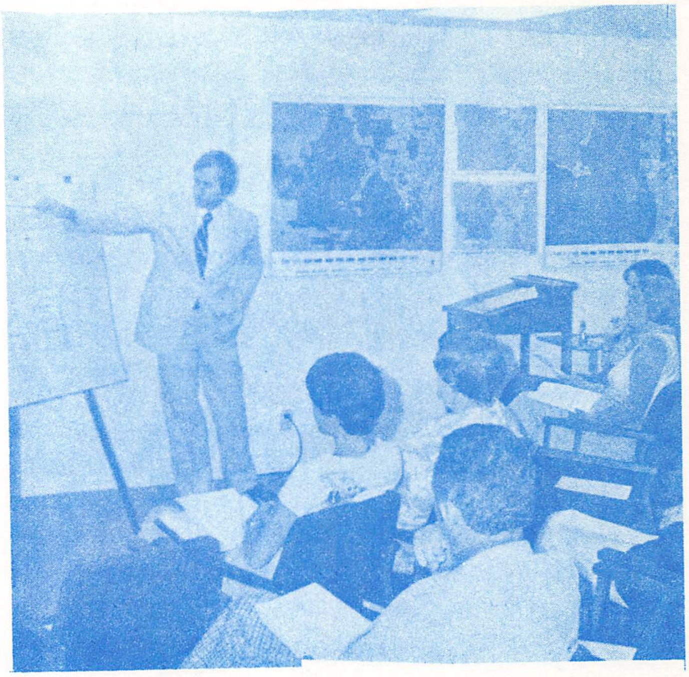
VOLUME 12 NUMBER 2

JANUARY 1978

208 WATER QUALITY PROGRAM HOLDS WORKSHOPS ON OPTIONS, LAND USE

MANAGEMENT NETWORK

The Area Planning Board's 208 Water Quality Program in recent months has held several workshops to help the public understand important parts of this federally funded study. On October 21, two sessions were offered on the most important element of all--implementation after the study is finished. A strict requirement of the 208 funding law is that every plan identify the control techniques (permits, incentives, performance standards etc.) and the institutions through which water pollution management will be carried out. Since this is so vital, the APB invited local officials and all members of the three 208 advisory committees--Technical, Citizens and Policy--to meet and to hear from its financial/management consultant, Hayes, Seay, Mattern and Mattern. Four representatives, using a variety of graphic displays, explained what the firm had come up with on management options involving local agencies. About 15 attendees at each session were able to gain insights through these presentations combined with question-and-answer sessions.



Member of 208 consultant firm Hayes, Seay, Mattern and Mattern explains graphic presentation of management network options at October APB workshop.

LAND USE PROJECTIONS

On December 9, APB 208 staff gave a workshop to which area planning professionals and municipal officials were invited. The purpose of this session was to explain the methodology being used to make land use projections for the water quality plan. Land use is basic: these projections underpin the figuring of anticipated pollution loads. Therefore, their accuracy helps avoid future shortages or excesses of waste treatment plants and/or control techniques. Approximately a dozen invitees attended and gave the staff the benefit of their feedback on the presentation.

****

PUBLIC PARTICIPATION CAMPOUT DRAWS TV COVERAGE

A Palm Beach County contingent of about 20--including staff, consultants and citizen committee members--journeyed north to Pioneer Park in Hardee County for the campout weekend Oct. 15-16. Workshops, water sampling and canoeing on the Peace River were enjoyed by the nearly 300 total attendees, who were also treated to a barbeque and some live bluegrass music. Television filming of the activities by Miami's public station WPBS-TV was aired twice in the weeks following this highly effective participation event. Congratulations again to its sponsors, the Central Florida Regional Planning Council, the Florida Audubon Society and the Polk County Sierra Club.

The preparation of this document was financed in part through a Water Quality Management Technical Assistance Planning Grant from the Environmental Protection Agency under provisions of Section 208 of the Federal Water Pollution Control Act Amendments of 1972 (PL 92-500). This public document was promulgated at this issue's cost of $108 or $.14 per copy, to inform the public concerning water quality issues.

REDUCING URBAN RUNOFF

As discussed in the previous 208 newsletter, stormwater runoff was early recognized as the leading "nonpoint source" of pollution in the study area. For further analysis, the problem was broken down into categories of urban runoff, construction site runoff, and agricultural runoff. The first two are of course highly related and are being dealt with in this issue and the next. Agricultural pollution, which is more of a leaching rather than a runoff effect, will be covered in another future newsletter.

As for urban runoff, there are clearly only two general approaches to help: either reduce the volume of water that carries pollutants and dirt off surfaces, or reduce the amount of dirt on those surfaces. The first approach usually involves "structural" devices built to slow or hold rainwater. The latter involves "housekeeping" techniques such as street sweeping. An idea that combines some features of both ways is better landscaping to help soil hold water. This reduces runoff volume while at the same time making less soil available to be carried away.

Listed on the opposite page are a number of structural devices to curb runoff. Due to cost and land needs, these are mainly applicable in newly developing urban areas. However, a few that involve little change to existing structures (parking lot retention, rooftop retention, grass swales and local grading) could work well in developed areas. Otherwise, housekeeping efforts may be the only practical route. In new areas there will obviously be construction sites, and further specialized methods of abating runoff at these will be discussed in the next newsletter.

To enlarge upon housekeeping efforts: Street sweeping, which works best where there are curbs and gutters, is done mainly by mechanical brush and vacuum machines, sometimes supplemented with manual labor. Correct operation of equipment makes a big difference in this work, so that benefits and costs vary widely among municipalities. Studies edited and published by EPA state that 25 per cent of the solids going into storm sewers are dust and dirt that could have been swept up.

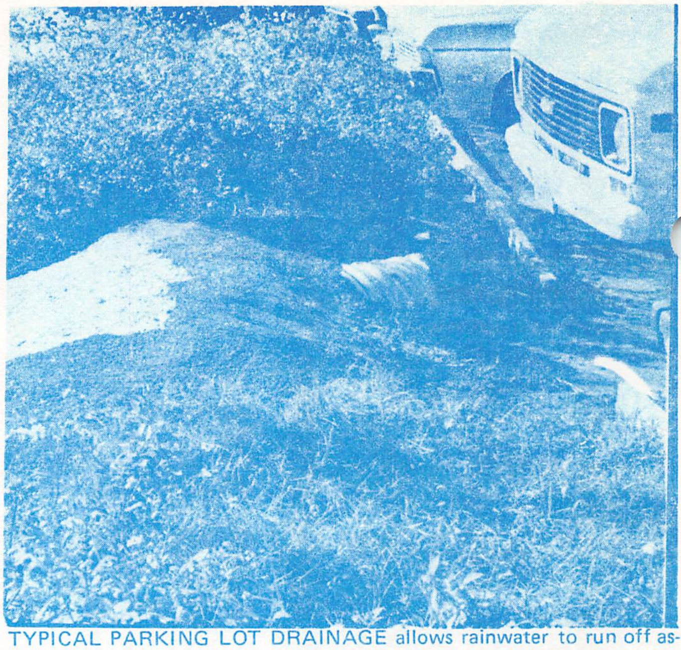
The convenient location of trash receptacles in a city can greatly reduce water pollution. This must be backed up by frequent collection, by educating the public and by enforcing anti-litter laws. Regular collection and careful waste storage at homes and businesses, especially restaurants and supermarkets, also helps a lot. Where a city has catch basins in its storm sewer system, regular cleaning out of accumulated soil and debris is a further plus in a housekeeping campaign.

As mentioned above, vegetation cover (landscaping) in urban areas can both reduce runoff flow and improve runoff water quality by "natural" filtering, besides providing beauty and shade. Native trees, grasses and shrubs are best to use because they usually need less care. When non-native plants require extra fertilizer and pesticides, that chemical contribution to water pollution may outweigh the landscaping benefits.

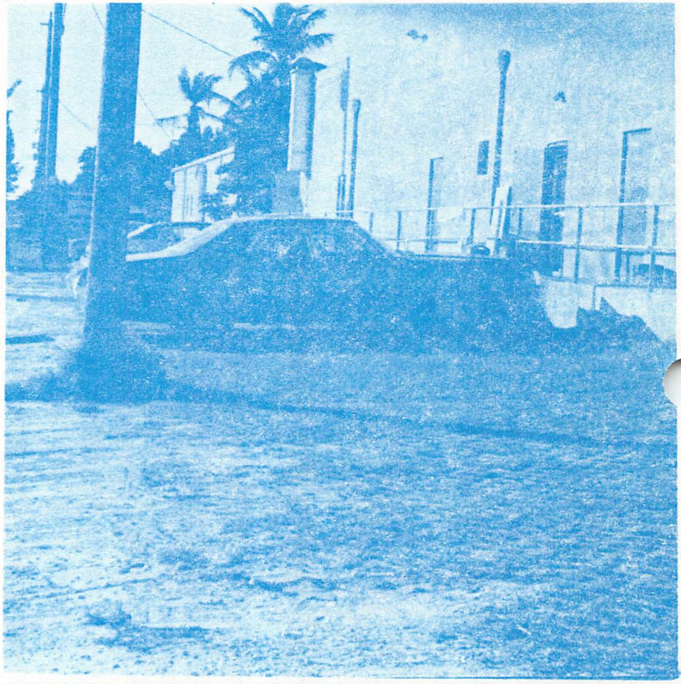
RELEVANT QUOTE

"It may be our citizens will have to suffer through a hurricane to get passage (of a $40 million drainage program, part of which was approved for referendum)."

Robert Grace, member of Palm Beach Town
Council (quoted in the Palm Beach Post
January 9, 1978)



TYPICAL PARKING LOT DRAINAGE allows rainwater to run off asphalt surface, either directly or into drainpipes that reach nearby canals.



PERVIOUS PARKING SURFACES such as this lot behind Seminole Plaza in West Palm Beach let more rain soak directly into the ground rather than run off.

DEVICES TO REDUCE WATER POLLUTION DUE TO URBAN RUNOFF

Grass Swales	Shallow ditches with broad side slopes and mild gradients, allowing more ponding and soaking into soil, with grass acting as filter.
Local Grading	Involves earthwork to ensure that overland runoff is directed away from specific areas, such as surface bodies of water.
Detention Basins	Small areas where runoff waters can be temporarily held, allowing some suspended solids to settle out before controlled release.
Retention Ponds	Excavated areas where runoff is stored without discharge; if well vegetated, can help by absorbing some dissolved contaminants.
French Drains	Closed systems of catch basins interconnected with perforated pipe that allows the discharge of runoff into the ground.
Covered Trenches	Excavated trenches covered with concrete slabs, used with catch basins to collect stormwater and filter it into the ground.
Dutch Drains	Gravel filled ditches with an optional drainage pipe in the base; used to reduce peak floods by increasing ground infiltration.
Shallow Wells	Installations consisting of a perforated vertical pipe about 10 feet deep, backfilled with gravel and connected to a catch basin.
Soakage Pits	Single catch basins draining into a trench surrounded on all sides by concrete blocks laid horizontally.
Deep Wells	Involves a storm sewer system connected to a cased well that extends to a level where groundwater salt content is more than 1,500 ppm.
Pervious Parking	Combinations of concrete blocks and natural grass that can support vehicles and yet offer good absorption of rain and oil products.
Riprapping	The process of making a stabilized area from stone, boulders, crushed rock, or sand and cement; helps canal banks and other erodable places.
Porous Pavement	An asphalt surface through which water can percolate and which is supported by materials able to accommodate runoff.
Parking Lot Detention	Holding excess runoff temporarily by using undersize inlet structures or placing gravel filter dams around the inlets.
Rooftop Detention	Using the flat roof of any structure to retard runoff flow and control its discharge to the ground.
Interceptor Systems	Ditches, trenches or storm sewers used to divert storm runoff from an erodable area to a discharge point, ideally a retention pond.
Cisterns	Large tanks, usually underground, into which rainwater from the roofs of buildings is collected; traditionally used as water supply source.

EVALUATION OF ANTI-RUNOFF DEVICES

(Grading: G - Good/Low Cost; F - Fair/Reasonable Cost; P - Poor/High Cost)

	Water Quality Benefits From the Reduction of			COSTS			Applicability	
	Sediments	Dissolved Contaminants	Peak Flows	Capital	O & M*	Reliability	Urban	Suburban
Grass Swales	G	F	F	G	G	G	F	G
Local Grading	F	P	F	G	G	G	G	G
Detention Basins	G	F	G	F	F	G	F	G
Retention Ponds	G	F	G	F	F	G	F	G
French Drains	G	F	P	F	F	F	G	F
Covered Trenches	G	F	F	F	F	F	G	F
Dutch Drains	G	F	F	F	F	G	G	F
Shallow Wells	F	F	P	F	P	P	P	P
Soakage Pits	F	F	P	F	P	F	P	P
Deep Wells	G	F	F	P	P	G	F	P
Pervious Parking	G	F	F	P	F	G	G	F
Rip-rapping	F	P	P	P	G	G	F	G
Porous Pavement	F	F	G	P	P	F	F	P
Parking Lot Detention	F	P	G	G	G	G	F	P
Rooftop Detention	P	P	G	P	F	G	F	P
Interceptor Systems	F	P	P	F	F	G	P	P
Cisterns	P	P	G	P	G	G	F	F

*Operation and Maintenance

AREA PLANNING BOARD OF PALM BEACH COUNTY

Charles W. Potter CHAIRMAN	Appointed by:	Palm Beach County Legislative Delegation
Thomas Altman VICE-CHAIRMAN	Appointed by:	Palm Beach County Legislative Delegation
Fred O. Easley	Appointed by:	Palm Beach County Legislative Delegation
Dr. Bernard Kimmel	Appointed by:	School Board of Palm Beach County
Dennis Koehler	Appointed by:	Board of County Commissioners Palm Beach County
W. H. Medlen	Appointed by:	Board of County Commissioners Palm Beach County
R. William Rutter Jr.	Appointed by:	Board of County Commissioners Palm Beach County
Shirley Kohl Vallan	Appointed by:	Palm Beach County Legislative Delegation
Dorothy H. Wilken	Appointed by:	Palm Beach County Legislative Delegation
Frank W. Brutt	Executive Director	

apb FORUM

NEWSLETTER OF THE AREA PLANNING BOARD OF PALM BEACH COUNTY 2300 PALM BEACH LAKES BLVD, WEST PALM BEACH, FL 33409